

Serial No. 10/666,294
Amendment dated October 6, 2006
Reply to Office Action of June 29, 2006

REMARKS

Reconsideration of this application and the rejection of claims 1-17 and 26-32 are respectfully requested. Applicants have attempted to address every objection and ground for rejection in the Office Action dated June 29, 2006 (Paper No. 20060626) and believe the application is now in condition for allowance. The claims have been amended to more clearly describe the present invention.

Applicants respectfully remind the Examiner that claims 1-17 and 26-32 are in the application per the election filed October 5, 2006. In the present Official Action, the Examiner has not addressed the status of claim 26, which was previously subject to a Section 112 rejection. Applicants have further amended claim 26 to more clearly describe the use of the claimed formula in the method of producing structural cementitious panels as described in the specification. Regarding the Examiner's statement regarding a nonelected invention, on page 4 Applicants remind the Examiner that claims 1-17 and 26-32 were elected in this application, and as such Applicants are not canceling the claims at issue. However, Applicants have canceled claims 18-25 relating to the nonelected invention.

Claims 1-17 and 27-32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Miller et al. (U.S. Pat. No. 4,793,892) in view of Dinkel (U.S. Pat. No. 3,284,980). Miller discloses an apparatus for producing glass fiber reinforced concrete

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panels consisting of a layer of light weight concrete core mix bonded to a web of glass fiber mesh on each face. The type of panels to which Miller is addressed is described as having a core layer consisting of a hydraulic cement, such as Portland cement, mixed with a light weight aggregate and /or a foaming agent, and a web of reinforced fabric bonded to each face of the core layer. (Col. 1, lines 14-18). In Col. 1, Miller specifically discusses Dinkel '980 and describes the reference's drawbacks of producing such fabric reinforced panels. Among other things, "Major problems are encountered in the manufacture of such fabric reinforced panel webs, in the handling and placing of the web of reinforcing fabric on the core layer and in the application of a proper amount of the cementitious material to the reinforcing web to obtain effective bonding of the web layers to the core layer." (Miller, Col. 1, lines 42-48). Miller also discusses the prior art problem of obtaining proper penetration and bonding of the mesh to the core. Thus, as recited in Miller, his focus is in producing a board with a cementitious core, and fabric reinforcement on the faces of such board (See Dinkel FIG. 2).

As described in Miller, the target board is used as backerboards for ceramic tile, and other facing materials. Such board is also known in the art as "green board" and is used exclusively for interior construction. In contrast, as recited in the Background section of the present application, the present invention relates to the production of structural cementitious panels which have performance characteristics similar to

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plywood. The advantages of such panels include resistance to moisture and structural strength which is comparable to, if not greater than, structural plywood. Besides having the advantage of being moisture resistant, ideally, such cementitious structural panels are configured to behave in the construction environment similar to plywood, and as such are nailable and can be cut or worked using conventional saws and other conventional carpentry tools. Further, the SCP's should meet building code standards for shear resistance, load capacity, water-induced expansion and resistance to combustion, as measured by recognized tests, such as ASTM E72, ASTM 661, ASTM C 1185 and ASTM E136 or equivalent, as applied to structural plywood sheets.

The board described in Miller and Dinkel clearly lacks such characteristics. One such characteristic is shear strength, or resistance to forces exerted in the plane of the board such as when buildings are subject to high winds. With its easily delaminable face layers, the board of the references clearly lacks such strength.

Among other things, the board produced by the presently claimed process includes fibers distributed throughout the panel. This distribution is achieved largely by the claimed embedding step, a manipulative process by which the fibers are mixed throughout the slurry in a kneading action as described in the present specification. Also, such distribution is virtually impossible using the fabric reinforcing webs, and the production technology of the cited references.

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In addition to reciting that the embedded fibers are distributed throughout the panel, Applicants have revised the presentation of the steps of claim 1 to more clearly recite that either with or without a first layer of fibers deposited upon a web, a layer of slurry is deposited, followed by active embedment of the slurry and fibers. Next, additional sequences of depositing fibers and slurry and subsequent active embedment is performed for each successive layer. The resulting panel includes a plurality of layers each with fibers distributed throughout the slurry.

Besides failing to disclose or suggest the resulting board of the present invention, neither Miller nor Dinkel disclose or suggest the method as presently claimed. Among other things, the references both describe a core without any fibers, so embedment of the fibers in each layer is totally lacking. Further, both references fail to describe a system for providing a multilayered panel whereby loose fibers are distributed throughout the panel. There is no mechanism or contemplation in either reference for providing loose fibers and the type of board desired in both references would be unattainable using such fibers based on the disclosure of the references.

Applicants respectfully traverse the Examiner's dismissal of claims 8-12 as being directed to apparatus limitations. On the contrary, the claims recite additional steps used to make the panels recited in claim 1. Such steps are neither disclosed nor

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suggested by either reference. The Examiner cannot ignore clearly distinguishable claim limitations just because the manipulations involve some structural apparatus.

Similarly, Applicants traverse the Examiner's failure to consider the distinction of the use of loose fibers rather than the fabric webs of the references. With the present amendments, the Applicants have emphasized the previously recited active, manipulative embedment step to recite, among other things, that the resulting panel, through the manipulation, has fibers distributed throughout. The embedment step itself is a manipulation of the slurry, which requires loose fibers for achieving the desired result, as described in the specification. Accordingly, the rejection based on a combination of Miller and Dinkel is respectfully traversed.

In view of the above amendments, the application is respectfully submitted to be in allowable form. Allowance of the rejected claims is respectfully requested. Should the Examiner discover there are remaining issues which may be resolved by a

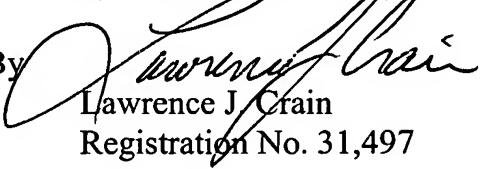
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telephone interview, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By


Lawrence J. Crain
Registration No. 31,497

Customer No. 24978
October 6, 2006
300 S. Wacker Drive - Suite 2500
Chicago, Illinois 60606-6501
Telephone: (312) 360-0080
Facsimile: (312) 360-9315